

### **Topics and References for the position proposed for contest**

For the position No. 2 from Staff Establishment of the Department of Food Product Engineering for the year 2019 - 2020

#### **1. Additives and ingredients in the food industry**

1. Food preservatives. Overview. Role. Classification. Organic preservative additives,
2. Antioxidants. Definition. Classification. Mechanism,
3. Natural and synthetic food dyes,
4. Flavors. Flavors and flavor enhancers. Relationships between chemical structure and aromatic qualities,
5. Natural sweeteners and sweeteners.

#### **References**

1. Banu C., -coordinator, Additives and ingredients for the food industry, Publishing House Tehnica, Bucuresti 2000.
2. Banu C., - coordinator, Food industry engineer's manual. Vol. I si II, Publishing House Tehnica, Bucuresti, 1998.
3. Banu, C., Preda, N., Vasu, S. Food and their safety, Publishing House Tehnica, Bucuresti, 1982;
4. Bibek, R., Fundamental Food Microbiology, CRC Press, London, New York;
5. Branen LA, Davidson M., Salminen S., Thorngate JH, Food Additives, Marcel Dekker, Inc., New York, Basel, 2002;
6. Cotrău, M., ș.a., Toxicology, Publishing House Tehnica, Bucuresti, 1991;
7. Macovei, N., E and health problemes, Publishing House Association Cristiana București, 2000;
8. Savu, C., Environmental pollution and the presence of toxic substances in food – food quality control, Publishing House Semne, București, 1999;
9. Segal, B., Balint, C., Processes to improve the quality and stability of food, Publishing House Tehnică, București, 1982;
10. Socaci Carmen, Course of Food Chemistry and Food Additives, Cluj-Napoca, 1997;
11. Steinhart, C.E., Doyle, M.E., Cochrane, B.A., Food Safety, Ed. Marcel Dekker, inc. New York, 1994;

12. Tofana M., Food additives Interaction with food, Publishing House AcademicPres, Cluj Napoca, 2006.

## **2. Impact factors upon the quality of raw materials**

1. Impact of physical factors (radiation, light, temperature, humidity, electric field, magnetic, microwave, gravity) on the quality of raw materials,
2. Impact of abiotic factors on raw material quality / Effect of high temperature on cereal quality,
3. Impact of genetic changes on food,
4. Impact of biological factors on raw material quality. Crop pests,
5. The quality of organic raw materials vs. of conventional ones.

## **References**

1. Abadias M., et al., Microbiological quality of fresh, minimally-processed fruit and vegetables, and sprouts from retail establishments, *International Journal of Food Microbiology* 123, 121–129, 2008;
2. Alistair S. Grandison, *Postharvest Handling and Preparation of Foods for Processing*, *Food Processing Handbook*, Second Edition. Edited by James G. Brennan and Alistair S. Grandison, Wiley-VCH Verlag GmbH & Co. KGaA, 2012;
3. Blake, J J, Spink, J H, Dyer C, Factors affecting cereal establishment and its prediction, Report, Home-Grown Cereals Authority, 2003;
4. James S.J. , James C., The food cold-chain and climate change, *Food Research International* 43, 1944–1956, 2010;
5. Kårlund A., Moor U., Sandell M., Karjalainen R O, The Impact of Harvesting, Storage and Processing Factors on Health-Promoting Phytochemicals in Berries and Fruits, *Processes*, 2, 596-624, 2014;
6. Lake I.R. et al., Climate Change and Food Security: Health Impacts in Developed Countries, *Environmental Health Perspectives*, 120 (11), 2012;
7. Popovski S., Celar F.A., The impact of environmental factors on the infection of cereals with *Fusarium* species and mycotoxin production – a review, *Acta agriculturae Slovenica*, 101, 105 – 116, 2013;
8. Uzogara Stella G., The impact of genetic modification of human foods in the 21st century: A review, *Biotechnology Advances* 18, 179–206, 2000;
9. Ximena C. Schmidt Rivera, Namy Espinoza Orias, Adisa Azapagic, Life cycle environmental impacts of convenience food: Comparison of ready and home-made meals, *Journal of Cleaner Production* 73, 294e309, 2014;
10. Zia-Ur-Rehman, Storage effects on nutritional quality of commonly consumed cereals, *Food Chemistry* 95, 53–57, 2006.

11. \*\*\*Airfreight Transport of Fresh Fruit and Vegetables : A Review of the Environmental Impact and Policy Options, International Trade Centre UNCTAD/WTO, Palais des Nations, 1211 Geneva 10, Switzerland (<http://www.intracen.org>)
12. \*\*\*How to Determine the Shelf-life and Date Marking of Food A Draft Guidance Document MPI Discussion Paper No: 2012/27, ISBN No: 978-0-478-40483-8 (online), 2012;
13. \*\*\*Quality of Organic vs. Conventional Food and Effects on Health, Report, Estonian University of Life Sciences, 2011.

### **3. Inocuity of agri-food products**

1. Contaminant natural care affects the safety of the products. Peptide. Alkaloids. Glycosides. Phenolic substances. Vasoactive substances. Fish toxins and other species,
2. Effect of processing on information about information,
3. The effect of food additives,
4. The effect of chemical contaminants on information,
5. Contaminated products with mycotoxinogen fungus.

### **References**

1. Banu, C., Preda, N., Vasu, S., Food and their safety, Publishing House Tehnică, Bucureşti, 1982;
2. Bibek, R., Fundamental Food Microbiology, CRC Press, London, New York, 2003;
3. Cotrău, M., ş.a., Toxicology, Publishing House Didactică şi Pedagogică, Bucureşti, 1991;
4. Macovei, N., E and health problemes, Publishing House Association Cristiana Bucureşti, 2000;
5. Savu, C., Environmental pollution and the presence of toxic substances in food – food quality control, Publishing House Semne, Bucureşti, 1999;
6. Segal, B., Balint, C., Processes to improve the quality and stability of food, Publishing House Tehnică, Bucureşti, 1982;
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